



“Scientists who push the envelope are what we’re all about. They are a vital national asset.”

– Gen. John Gordon



“Our contribution to the scientific community in this field is astounding.”

– C. Bruce Tarter



“It is scientific supercomputing where Livermore leads.”

– C. Judson King



“All DOE labs continue to work together. The name of the game is collaboration.”

– James Decker

A day of show and tell for supercomputing

By Sheri Byrd

NEWSLINE STAFF WRITER

In an unprecedented exhibition of the vast reaches of the Lab’s supercomputing power, scientists and engineers from nearly every discipline and program displayed their projects throughout the Science Day celebration. Employees, managers, media, and local and state political representatives gathered to hear presentations, tour facilities and examine posters in the daylong celebration of the work done here and how it utilizes LLNL’s unique place in the world of supercomputing.

Director Bruce Tarter kicked off the day’s events by discussing how he and Deputy Director for Science

and Technology Jeffrey Wadsworth first decided upon the overall theme.

“We asked ourselves how we’ve had the largest impact on the scientific community in general. The answer was clearly in scientific

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supercomputing.”

Tarter reflected on an experience as a Cornell graduate student when he heard then-Director Mike May discuss the first black hole calculations done on a computer. “This was the first indication I had heard of science on the computer, not just using computers for calculations at

the end of a lab experiment.”

Setting the stage for the speakers to follow, Tarter summed up, “Our contribution to the scientific community in this field is astounding.”

Gen. John Gordon, administrator for the National Nuclear Security Administration (NNSA), was on hand to help the Lab celebrate, and spoke of NSSA’s relationship with the scientists who staff its labs.

“This past year has been pretty tough,” Gordon remarked, “here and at other national labs. But all this work we’re hearing about today took place during all these hard

See **SCIENCE DAY**, page 8

Krebs tells scientists to learn ‘language of leadership’

By Sheri Byrd

NEWSLINE STAFF WRITER

Despite a perception of conflicting objectives, scientists must be responsive to management if they want to seek funding, said Martha Krebs, director of the California NanoSystems Institute and former director of DOE’s Office of Science.

Krebs spoke last week as part of Women’s History Month celebration sponsored by the Lab Women’s Association.

Krebs’ talk, “Managing Science: Oxymoron or Real Life,” focused on the differences between the “languages” of leadership, administration and management, and how they all relate to the business of actual science.

“The institutional health of the scientific community depends on us learning each other’s ‘languages,’ ” said Krebs.

She also remarked that in her experience, “There is typically deep ambivalence to management here at LLNL.”

Krebs spoke of leadership being “crucial at the team level,” for optimum outcome in the scientific community. But once past the working level, she noted, the communication lines can become blurred.

Often, working scientists do not realize the amount of support that goes into their work, Krebs said. “In a typical university or DOE lab environment, there are 2,000 to 10,000 people, with only about a third of those actually involved in research and development.”

Such large numbers of working scientists must be well supported administratively if they are to be able to do their jobs. They need support such as food, security, payroll, machine shops and community information.

“The administration level is where management truly becomes an issue,” said Krebs. “You must be able to think about the whole



MARCIA JOHNSON/TID

Martha Krebs

See **KREBS**, page 8

NNSA will blend science, security to ‘push barriers’

By Sheri Byrd

NEWSLINE STAFF WRITER

When Gen. John Gordon, administrator for the National Nuclear Security Administration (NNSA), spoke at the Science Day celebration, he used his chance to speak to “a captive audience” of Lab employees, managers, scientists and engineers about the

creation and future of the NNSA.

“NNSA is only about a year old now,” Gordon began, “but in that short time, we’ve seen a real turn-around in how we feel about our work and our labs. We’re excited about where we are, and we’re excited about where we’re going.”

He noted the new

See **GORDON**, page 5



JOSEPH MARTINEZ/TID

Following his talk, Gen. John Gordon (right) presented AD Dave Cooper with a special certificate of appreciation.



Experimenting with fun

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Scientists spell out ABCs of physics

— Page 3



Forum gets to roots of safety

— Page 7



LAB COMMUNITY NEWS

Weekly Calendar

Technical Meeting Calendar, page 4

Saturday
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There will be a **scheduled power outage** on Saturday from 7 a.m. to 3:30 p.m. in Bldgs. 221, 222 and 231 and on Sunday from 7 a.m. to 3:30 p.m. in Bldg. 235.

Contact: Mark Cardoza, 3-0490.

Monday
26

It's **daffodil delivery day**. Orders can be picked up at the South Cafeteria from 10-11:30 a.m. Daffodils, vases and vision bouquets will be available for purchase at the South Cafeteria from 8:30 a.m. until 1 p.m.

Wednesday
28

The Systems and Network Department is hosting the semi-annual **"Information Technology Expo,"** conducted by the Federal Business Council, from 10 a.m. to 2 p.m., in the LLNL west parking lot (near Bldg. 111). Exhibitors will be on hand to demonstrate and display the latest in information technology. Free In-N-Out burgers will be served to all registered attendees. Register at www.fedpage.com/events. Contact: Candace Gittins, gittins1@llnl.gov.

Thursday
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DeWitt Bowman, UC's interim treasurer and vice president for investments, will share his views on the economy and the market as well as what makes UC's retirement plan one of the most financially sound retirement systems in the world in a talk from noon to 1 p.m. in the Bldg. 123 auditorium. Seating will be available on a first-come, first-served basis.



LLESA and the American Red Cross are co-sponsoring a **blood drive** April 2-6 in Bldg. 415. Hours of the blood drive will be from 10 a.m. to 4 p.m. on April 2 and 7:30 a.m. to 1:30 p.m. April 3-6. Appointments should be scheduled in advance at www.beadonor.com (company code: LLNL) or by calling Mandy Monk at (510) 594-5211.

...

Kip Fulbeck, an associate professor of Art Studio and Asian American Studies will discuss growing up as a "hapa" when he presents "I Hope You Don't Mind Me Asking, But..." on Wednesday, April 4, at 1:30 p.m. in the Bldg. 123 auditorium. He is part of the **Diversity Speaker Series**, sponsored by the Affirmative Action & Diversity Program. Following the presentation a "dialogue with the speaker reception" will be held in the West Cafeteria.

...

Peg Jordan, registered nurse and author of five books, will present **"When Steel Buns Don't Inspire, What Does?"** on Friday, April 6, at noon in Bldg. 123 auditorium. Her talk highlights the shortcomings in the commercial fitness industry, and the reasons behind its failure to inspire consistent physical activity in most people. Contact: Marnette Yeager, 2-1217.

Experimenting with fun



It was another successful showing for the Tri Valley Expanding Your Horizons conference. The event, held recently in San Ramon, attracted 600 young women for a day of hands-on science.



PHOTOS COURTESY OF KIM BUDIL

Saturday talk to shed light on optical revolution

The Lab's Science on Saturday series will feature a talk tomorrow on "How Light Is Changing Your Future," from 9:30 to 11:15 a.m. in the Bldg. 123 auditorium. This is the final lecture in this year's series.

Chris Ebbers and Joel Speth of LLNL's Laser Science and Technology Program and West High School teacher Randy Mohenke will talk about the optical revolution now taking place in communication.

"Where only 200 years ago it once took weeks to transmit information in letters carried by foot, horse or boat, the new transit of information takes place at the speed of light using lasers propagating down shards of glass," explained Ebbers. "This tremendous increase in the speed of information transfer takes place due to the merging of two sciences: optical physics and materials science — the understanding of how light works and the discovery and perfection of glass fiber optics. In this talk, we

will explore the developments in these two branches of science that have merged at this historical moment."

Science on Saturday talks, offered every Saturday for six weeks, are open to students, their parents or guardians and teachers. Registration is at the door and seating is available on a first-come, first-served basis.

The series is co-sponsored by the Laboratory's Science & Technology Education Program and the Livermore chapter of Sigma Xi, the Scientific Research Society.

This will also be the final Saturday for the additional workshops offered to teachers of grades 6-8. The teacher workshops, held in the Visitors Center from 8 a.m. to 3:30 p.m., expand on the Science on Saturday talk with the aid of Great Explorations in Math and Science (GEMS) guides and materials.

For more information on Science on Saturday, check the Web at <http://education.llnl.gov/sos>.

IN MEMORIAM

Carmen Cordial

Services have been held for Carmen L. Cordial, who died Dec. 22, at the age of 76.

Cordial worked at the Lab for 25 years as a secretary. During her career she supported former Director Roger Batzel. After retiring in 1986, she and her husband moved to Rescue, where she was active in the Diamond Springs Art Association and Shingle Springs Senior Center.

Survivors include three daughters, Gwendolyn, Tamara and Kitrina; a son, John; seven grandchildren, and two great-grandchildren.

Howard Malear

Services have been held for Howard Lee Malear, a retired electrical engineer, who died Feb. 16 in his Tracy home.

Malear worked at the Lab for more than 26 years before retiring in 1993. A native of Kentucky, he lived in Tracy for 35 years and served as a sergeant in the Marine Corps. During his Lab career, he worked in the Defense Sciences Engineering Division.

He was a member of the Tracy Wildlife Association.

Survivors include his wife of 10 years, Gloria; son Tony; daughter Tina; stepchildren Alan, Collette and Chris; 12 grandchildren and two great-grandchildren.

Contributions in his memory may be sent to the breast cancer research department at Stanford Medical Center, 1000 Welch Road, Suite 202, Palo Alto 94306.

Antonio Sanchez

Services have been held for Antonio "Tony"

Sanchez, a former graphics artist who died Feb. 20. He was 55.

Sanchez was a native of New Mexico and lived in Livermore for 28 years. He worked at the Lab for more than 20 years before retiring. During his career he was a recipient of an excellence award from the Society Technical Communicators.

He was a member of the National Institute for the Certification of Engineering Technicians, the Society of Manufacturing Engineers, and the Alumni Association of the University of Nevada, Reno.

He enjoyed art, photography and kung fu.

Survivors include his wife of 22 years, Susan; daughter Raquel; son Robert; his parents, sister and four grandchildren.

Contributions in his memory may be made to Hope Hospice, 6500 Dublin Blvd., Suite 100, Dublin 94568.

Newsline

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AROUND THE LAB



Lab scientists contribute to physics dictionary

Lab physicists Don Correll and Bob Heeter were recent collaborators on the CRC Press Comprehensive Dictionary of Physics, published earlier this year.

Both Correll, who is director of the Lab's Science & Technology Education Program, and Heeter, who is a Lawrence Fellow at the Lab, are associated with nationally recognized plasma education activities. They responded last year to a request by the CRC Press editor to add plasma terms to the Comprehensive Dictionary project (<http://members.aol.com/physdict/>).

There are actually three separate dictionaries, all of which will be combined into the comprehensive volume. The three separate works are entitled: Dictionary of Pure and Applied Physics (published on Dec. 23, 2000); Dictionary of Material Science and High Energy Physics (published on Jan. 25); and Dictionary of Geophysics, Astrophysics, and Astronomy (available on June 13).

Correll and Heeter's contributions were included within the Plasma Physics terms contained in the Material Science and High Energy Physics dictionary. The primary purpose of the three dictionaries is to help scientists to use terminology clearly and consistently. The dictionaries can also help students, teachers and technical writers to fully understand papers, articles, dissertations and books in which physics-



JOSEPH MARTINEZ/TID

From left: Bob Heeter and Don Correll

related terms appear.

"Bob and I were surprised by the scope of writing precise definitions of plasma terms which both of us have used in publications for years. Making sure that the plasma definitions were self-consistent with each other and applicable to a wide range of users added additional challenges," Correll said.

Added Heeter, "The specialized terms that help scientists communicate are like a foreign language to

those who aren't already experts. In addition to helping reduce some of these language barriers, defining key, fundamental terms for the dictionary also helped me reinforce my own knowledge."

Correll and Heeter took their contribution one step further. Working with Mitch Alvarez, STEP's information technology manager, they created a database-driven Website that allows users to submit new plasma terms, search for specific terms or browse alphabetic listings. (<http://education.llnl.gov/plasma-dictionary>).

Plasma scientists are encouraged to add terms and definitions. Correll reported the results of the Web version of a Plasma Dictionary at last October's annual meeting of American Physical Society Division of Plasma Physics. The plasma dictionary Website's primary use is by students, teachers, researchers and writers

for enhancing literacy in plasma science, serving as an educational aid, providing practical information and helping clarify plasma writings.

Correll and Heeter share a common view for the future of the Plasma Dictionary Website, adding "we hope it will evolve and grow along with the language of plasmas, becoming a peer-reviewed reference for the field."

Lab export control training conducted by Commerce Department

A team of export control officials from the Department of Commerce spent two days at the Lab recently, conducting an extensive training session on export control and touring key Lab facilities.

The all-day training session was intended to provide up-to-date information on export licensing, legal issues surrounding export control and revised rules and regulations.

"This seminar is intended to give managers a better idea of how export controls work — and how to avoid pitfalls and problems. We organized a team of experts to answer questions and provide information. We'll be visiting Livermore and Los Alamos this year," said Mark Menefee, director of the Department of Commerce Office of Export Enforcement.

"In general, this Lab is doing quite well. There have been minor problems in the past but we've dealt with it. These kinds of controls aren't going to go away. Managers have to have a system to deal with them," he added.

The Lab has a Classification and Export Controls



MARCIA JOHNSON/TID

As part of his visit to the Lab, Mark Menefee (center), director of the Commerce Department's Office of Export Enforcement, presented commendations to Dale Nielsen (left) and Bill Dunlop for their part in creating computer work for former weapons scientists in Russia.

office that is set up to do just that, said Bill Bollinger, a classification adviser and the Lab's deputy export controls officer. Each of the classification advisers is well versed in both classification and export controls

regulations in his or her area of expertise, he added.

"Companies that incorporate export control into all aspects of their business tend to do better. Labs and lab divisions that think about this and deal with it throughout their programs will do better. The key is to prevent problems before they occur," Menefee said.

The Lab's Classification and Export Control Office has a Website (www.llnl.gov/expcon/general.html) that offers detailed information about export control, Bollinger said, from providing definitions to outlining policy to specifying roles and responsibilities.

Export controls "refer to government rules and regulations that govern the transfer of commodities (equipment, hardware or materiel), technologies (technical data, information or assistance), and software (commercial or custom) to any non-U.S. entity or individual, wherever the transfer may take place," according to the Lab's Classification and Export Control Office's Website.

"The export control system is constantly changing," Menefee said. "A manager has to find a way to keep up with the changes. The system can change in the lifespan of a project."

The visit and training session, held earlier this month, were part of a new series of "train and learn" workshops initiated between the Commerce and Energy departments.

In addition, employees from throughout the DOE complex have been invited to spend a couple of weeks in Washington D.C. training alongside export control experts in the Bureau of Export Administration.

"Classification rules don't change nearly as much as export controls regulations do," Bollinger said, adding that the Classification and Export Controls Office has a team of experts who keep up with the changes. "We should be the first point of contact for people at the Lab."

In addition to Lab employees, six field agents from the San Jose branch of the Bureau of Export Administration also attended Monday's training.

For more information about export control, visit the Classification Office's Website or call 2-5002.



You can contact
CHEW personnel by
phone or pager.

Call: 4-5055

Page: 6-3608

E-mail: grewal1

CHEW

CHEMICAL EXCHANGE WAREHOUSE

Free chemicals, deliveries, pick-ups

The CHEW program has delivered 10,681 chemicals from October 1993 to present, and within this time period has saved \$1,632,235.

Aiming to reduce the amount of unwanted surplus chemicals to be sent off site for disposal, the CHEW program collects and stores the surplus chemicals according to the potential use, need and capacity of the storage facility, and issues those chemicals to the new users.

The CHEW warehouse currently has more than 2,900 items available for new users. You can see the list of available chemicals on the EPD6179 server under "the CHEW Operation" after logging onto that server as a guest.



NEWS YOU CAN USE

Send unclassified e-documents to DARS

The Library's Document Approval and Report Services (DARS) group coordinates review and release of the Lab's scientific and technical publications.

As part of the R & R process, DARS sends electronic announcements of the Lab's unclassified, unlimited distribution STI publications to the DOE Office of Scientific and Technical Information (OSTI) for inclusion in their Web databases.

Full-text versions of the Lab's unclassified, unlimited distribution documents are available in the Library's Documents On-Line system, where they are linked by URL to DOE's Web databases.

Recently, DOE/OSTI issued a revision to DOE Order 241.1 "Scientific and Technical Information Management." The revised order requires, in part, that reports be submitted to OSTI "as integrated PDF files that contain all text, tables, diagrams, photographs, schematics, graphs and charts."

To assist DARS in complying with the revised DOE order, and to improve the efficiency of TID services, the Library requests all customers send electronic versions of documents that are determined to be unclassified, unlimited by the R&R process. These electronic files should be sent to

DARS within 10 working days after you are notified of the release of your document.

The DARS group would prefer to receive PDF files, however, DARS will convert your Microsoft Word documents into PDF format at no additional charge.



If you are unable to send DARS an electronic file, your paper document will be sent to TID's Print & Digital Media Group and converted into electronic format. The cost of the scanning and conversion will be passed on to you. Similarly, if you send DARS an electronic file in a non-standard word processing or text editing format, which cannot be readily converted into PDF format, DARS will forward your paper document to TID's Print & Digital Media group for scanning and conversion.

DARS will accept your electronic files via e-mail, file transfer, regular Lab mail or hand carry. Electronic files may be in either Macintosh or PC format. Your DARS document coordinator will provide further details regarding the submittal of electronic files when you are notified of the release of your document.

These changes in R & R policy and procedure are effective immediately.

Due to security requirements, DARS cannot accept electronic files before your document has been reviewed and released and has been determined to be unclassified, with unlimited distribution. Therefore, as always, DARS needs three paper copies of your document for review and release, along with a completed Document Release Form (LL-6397).

DARS is assessing the feasibility of implementing a completely electronic review and release process. In the meantime, however, because of security concerns, the review and release process will continue to be primarily paper-based.

For more information or clarification, please call Dennis Elchesen, DARS Group Leader, (3-0373).

Technical Meeting Calendar

Friday
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ANALYTICAL & NUCLEAR CHEMISTRY

"Reaction Studies of Substituted Phenyl Radicals by Using Mass Spectrometry," by Jenny L.

Heidbrink, Purdue University. 10 a.m., Bldg. 151, room 1209 (uncleared area). Contacts: Sharon Shields, 2-0016, or Bonnie McGurn, 3-2764.

CHEMISTRY & MATERIALS SCIENCE

"Corrosion and Passivation Characteristics Of C-22 Alloy," by Raul B. Rebak, Swagelok Company. 10 a.m., Bldg. 543, room 2074 (uncleared area). Foreign nationals may attend if appropriate security plan is on file that includes Bldg. 543. Contacts: Tammy Summers, 3-0531, or Nan Poggio, 2-9279.

H DIVISION

"Ground State Structure and Domain Walls in Random Field Magnets," by Eira Seppala, Helsinki University of Technology. 10 a.m., Bldg. 319, room 205 (open area). Contacts: Robert Rudd, 2-4292, or Darlene Klein, 4-4844.

INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS

"Dissecting High-Redshift Galaxies with Adaptive Optics and Archival Hubble Space-Telescope Images," by Eric Steinbring, UC Santa Cruz. Noon, Bldg. 319, room 205 (open area). Contact: Joanna Allen, 3-0621.

Monday
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LIVERMORE COMPUTING

"InfiniBand: The Next Paradigm Shift in Storage Subsystems," by Thomas Ruwart, Ciprico. 9 a.m., Bldg. 451, room 1025 (uncleared area).

Contacts: Terry Jones, 3-9834, or Donna Call, 4-9801.

LASER SCIENCE & TECHNOLOGY

"Reflections on Adventures in Coherent Wonderland: Curiouser and Curiouser Counterintuitive Physics. (A Historical Tutorial)," a

farewell address by Bruce W. Shore, Laser Science and Technology, retiring after 30 years with LLNL. 11 a.m., Bldg. 481 auditorium (cleared area). If you are a red-badge employee and do not currently have Bldg. 481 access, you will need to be vouched in by a person who does. No one-time access requests will be processed. Contact: Hao-Lin Chen, 2-6198.

H DIVISION

"Hydrogen-Hydrogen Interactions in Jellium (and More)," by Stanimir Bonev, Cornell University. 10 a.m., Bldg. 319, room 205 (open area). Contacts: Giuila Galli, 3-4223, or Darlene Klein, 4-4844.

Wednesday
28

SYSTEMS & NETWORK DEPARTMENT

Federal Business Council's "Information Technology Expo." LLNL west parking lot (near Building 111), 10 a.m. to 2 p.m. Come visit the tent to see the latest in information technology displays and demonstrations. For a complete list of exhibitors, see <http://fedpage.com/events/pacificwest/pacificwest.html>. Contact: Candace Gittins, 4-4952.

SYSTEMS AND NETWORK DEPARTMENT MACINTOSH TECHNICAL SEMINAR SERIES

A presentation about the newly released Mac OS X, by Blake Stone, Borland's Java business unit. 1:30 p.m. (note different time than usual), Bldg. 543 Auditorium. Contact: Becky Frank, frank4@llnl.gov.

ASCI INSTITUTE FOR TERASCALE SIMULATION

"Computing the Cosmic Web and the Evolution of the Universe," by Michael Norman, University of California, San Diego. 3:45 p.m., Bldg. 543 auditorium. (Note change of location; all visitors must be badged.) Contacts: David Keyes, 2-1325, or Terry Garrigan, 3-6209.

MATERIALS RESEARCH INSTITUTE

"Impulsive Stimulated Scattering of Surface Acoustic Waves on Metal and Semiconductor Crystal Surfaces", by Eric Chronister University of California, Riverside.

3:30 p.m., Bldg. 219, room 163 (open area). Contact: Bruce Baer, baer4@llnl.gov, or Miriam Rinnert, rinnert1@llnl.gov.

Thursday
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INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS

"Prediction and Reproducibility in Stellar Evolution Simulations," by Dave Arnett, University of Arizona.

Noon, Bldg. 319. Room 205 (open area).

Contact: Joanna Allen, 3-0621, or see <http://www.llnl.gov/urp/IGPP/SemCalendar/IGPPSemCal.html>.

CONTROL & DATA ACQUISITION USERS GROUP

"Precision Optical Alignment and Small Detail Inspection," by Sam Hales, National Instruments. "Biological Smoke Detector," by Keith Burris, LLNL. 1 p.m., Bldg. 543 auditorium (uncleared area) Contact: Tom Clark, 2-0285.

PHYSICS & ADVANCED TECHNOLOGIES

"X-Ray Line Emission from Accretion Disk Atmospheres," by Mario Jimenez-Garate, LLNL/Columbia University. Bldg. 219, room 163 (uncleared area). Contacts: Raylene Miller, 2-6300, or Ida Hartman, 3-2655.

Friday
30

INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS

"Gravitational Waves from the Early Universe," by Craig Hogan, University of Washington. Noon,

Bldg. 319, room 205 (open area). Contact: Joanna Allen, 3-0621. <http://www.llnl.gov/urp/IGPP/SemCalendar/IGPPSemCal.html>

Deadline for the next calendar is noon, Wednesday, March 28.



Global grid an emerging reality for internet technology

By Sheri Byrd
NEWSLINE STAFF WRITER

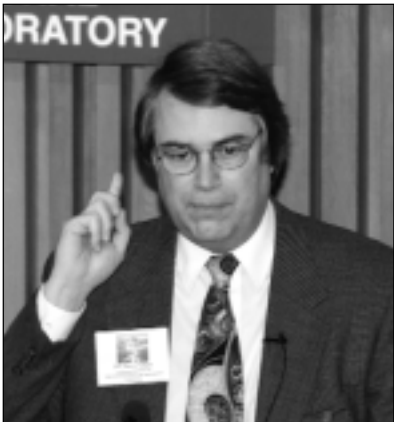
A transition is coming to the internet and the supercomputing power it holds, said Larry Smarr in the plenary presentation for the Lab's Science Day celebration. Smarr, founding director of the National Computational Science Alliance and founder and director of the California Institute for Telecommunications and Information Technology, discussed this emerging transition in his talk, "From Supercomputer to the Grid."

Smarr began by acknowledging the Lab's role in the birth of supercomputing. "LLNL provided the mentors for the designers of today's supercomputers," Smarr said, and went on to reminisce about the 1970s as a "glorious period" in access to LLNL's high-speed computers and the work it achieved.

"In those days," he continued, "there was a supercomputing famine in American universities. If it wasn't for the nuclear weapons program and the funding it provided to this Lab, a supercomputer never would have been built."

The definition of supercomputing, however, has changed along with Moore's Law. In a remarkable comparison, Smarr demonstrated that supercomputing in 1988 reached the gigaflop level, the level now achieved on a common desktop Apple G4.

"But now," said Smarr, "with emerging wireless technology and the vast amount of optical fiber in the ground, there's a phase transition coming to a completely



JOSEPH MARTINEZ/TID

Larry Smarr

unlimited global system — the grid."

As an example of the emerging supercomputing power of grid-connected computers, Smarr discussed University of Oklahoma's Kelvin Droegemeier's predictions of the tornadoes that ripped through Oklahoma City on May 3, 1999. By using the connected capabilities of five large computers connected to real-time sensors in a "nested" grid, Droegemeier accurately predicted the storm patterns and times two full hours before they hit.

Smarr spoke of this kind of real-time data processing, not just simulation, as a primary future use for the nation's grid of supercomputers. "Moore's law, applied to sensors and the wireless internet, will transform supercomputing with tens of thousands of microsensors for data collection.

"We're in the process right now," he emphasized, "of creating Internet 2 — 150 universities creating the national backbone for America's 21st century information infrastructure. The biggest hurdle right now is developing the software to take advantage of the global grid."

Other vital grid components will be the wireless internet and broadband access. "We're taking the internet into the physical world," he said. "We've got to get it out of little boxes in little rooms and bring access everywhere you go, and make it portable with wireless devices. The wireless internet will transform computational science and engineering."

Smarr explained that the beginning of the next internet phase means the end of the first phase.

"We're at the end of a technology S-curve. That's what has caused the big technology blowout on the stock market. But the exciting thing is that we're starting a new one even as the old one passes."

The moving of the internet from the desktop into the rest of everyday life presents, "fantastic opportunities for materials research and new devices."

Smarr credited his time at the Lab in the mid-'70s for teaching him the importance of interdisciplinary teamwork. This is the kind of teamwork necessary, he insisted, to take full advantage of the global grid.

"We need to imagine the structure in 10 years, then back up and get the people together who can do that."

Currently, as director of UCSD's California Institute for Telecommunications and Information Technology, Smarr and his team are building a "living grid lab," with fiber optic cable and wireless internet connecting supercomputers sharing data and running off the same software.

Expanding this grid idea into the private sector has now become reality, Smarr told the assembled scientists and engineers. "A Napster-style sharing of 16,000 home PCs is creating a supercomputer you can use from home," he stated. "This network is now running at a sustained speed of 1.5 teraflops, and growing by one thousand processors per week."

On the future of simulation, Smarr set the standard high. "A human cell is a living, dynamic information flow device. Nuclear weapons are pretty complicated, but not like this. Can we even simulate the billions of proteins in the function of a single cell, much less an entire organ?"

Smarr concluded his talk with a challenge to this and other national labs: "The global grid is a high performance supercomputer. How will the labs be able to participate? Don't shy away from this."



DON GONZALEZ/TID

A feel for forensics

Invited guests broke away from the Science Day presentations for a tour of the Forensic Science Center and Medical Technologies Program. Brian Andresen (far left) demonstrated techniques used for studying human tissue samples. Above, Pat Grant (far left) discussed how the center is often called upon to identify questionable materials.



On Tuesday, Gen. John Gordon (kneeling) toured the National Ignition Facility, where he learned about the Lab's crystal growing technology.

GORDON

Continued from page 1

five-year budget plan and expressed optimism for the primary projects at all NNSA labs. "We've seen an increase in confidence in NIF and stockpile stewardship, and the new UC contract has been strengthened to benefit all organizations.

"Although some of the morale problems have been stemmed, we must recognize that security, recruitment and retention issues are not squared yet," Gordon stated.

He assured the Lab population that NNSA is taking "a hard look at security to get it right." Furthermore, Gordon rejected the idea that the labs should

"balance" science and security, implying a compromise for both issues. Instead, he said, scientists and security experts must collaborate so that both missions operate at optimum levels.

"Scientists who push the envelope are really what we're all about," Gordon remarked. "We must reach out across any barriers to enrich the lives and careers of those who work for us. They are a vital national asset."

Gordon addressed goals in lab workforce diversity, and said the national labs should be "a beacon for diversity, where any American would want to work for NNSA."

Concluding with a pledge to all NNSA scientists, Gordon said, "There will be no new barriers or walls to collaboration, and we will still maintain security."



CLASSIFIED ADS

Check out the Employee Ads Web Services site at:
https://www-ais.llnl.gov/llnl_only/apps/newsline/ads

AUTOMOBILES

1994 - Chrysler Town & Country Mini Van -- 3.8 liter V-6, Auto, AC, AM/FM/CD, leather, roof-rack, excellent condition, 85.6K miles, \$8499 OBO. 925-447-0383

1996 - BMW 328is, Sport Pkg, 6 cyl (2.8 Liter), AT, Sunroof, Leather, 67.7 kmi, 1 owner, \$20,500.00 or BO 925-846-7867

1986 - Dodge Custom Van Conversion, storage, icebox, comfortable bed, excellent tow vehicle, 91K, new Michelin LT tires/ battery/wiring/brakes. \$3500. 925-625-5938

1991 - Charcoal Honda Accord LX. Power windows and locks. Good condition, 76000 miles. \$6000 or best offer. 925-447-8914

1991 - Toyota PREVIA Deluxe All-TRAC Van 4WD. Gray, very good condition, 170K miles, \$5,500. 925-634-0649

1992 - Plymouth Voyager, good condition, runs great, well maintained, 101k miles, \$4,200. 925-600-0255

1992 - Nissan Sentra 2D, CC, AC, PS, AM/FM cass, 135K miles, runs well but needs work. \$1500 or BO. 925-937-6267

1995 - Plymouth Acclaim V6, A/T, air, am/fm cass..power windows/seat, tilt, \$4,500 or B/O 209-531-1317

1995 - Honda Civic EX, Red, Low miles (47K), 5 speed, A/C, Pwr Moonroof, Cruise control, Pwr windows & locks, dual air bags, Premium Alloy rims, \$9800. 925-456-0282

1985 - Toyota Extra-cab pickup with matching shell. 5-speed. Runs-but needs work. Good project vehicle. Passed last smog. \$800.00 OBO. 209-576-7560

1991 - Mazda MIATA, Red w/black top & int. Alloy wheels, AC, AM/FM/Cass., 2 covers, bra, luggage rack, etc. Only 69K miles! Exc. cond. Fun to drive! \$7500 925-449-5667

1970 - Ford Ranchero, 302 V8, dual exhaust, AT, PS, shop manuals and other goodies, super clean, \$6000 OBO 925-455-8238

1993 - Jeep Grand Cherokee Limited, V8, 4 wheel drive, leather, fully loaded. Excellent condition, very clean, 125K miles. \$9,750. 925-520-1716

1994 - Ford Probe GT, V-6, 5 speed, 60K serviced, new tires, \$7,600 925-858-5184

1988 - NISSAN SENTRA Hatchback, 5 speed, CD player, current reg, perfect exterior, near perfect body, needs water pump & hoses - all else good. \$800 OBO. 925-292-1849

1977 - White Dodge Van, Tradesman 200. Body is in good condition. No cracked glass. Custom rims. Sell as is for parts.Call for details. \$500.00 O.B.O 209-832-2865

1992 - saturn 5 speed,pw,pb new tires blue..4,000 obo 209-835-5543

1991 - Acura Legend 4dr sedan all pwr,pearl white, all receipts from new.118,000 mi, \$10,750 or b.o. 925-443-4848

1966 - Mustang 6 cyl 4 speed recent rebuild on engine and trans. new power steering and stereo \$3,300 OBO 209-567-1409

1988 - BMW 735i in excellent condition, bronzit, leather, automatic, A/C, 130,000 miles, well maintained. Asking \$6K. 925-846-1459

1996 - Jeep Grand Cherokee Limited (red), great shape, 98,000 miles (blue-book retail \$15,500) \$14,000. D925-735-3535

1986 - 1986 Buick Skyhawk-77K-smogged-2-01 AT,AC,runs good, needs cosmetics on front, \$800.00 209-832-2494

1995 - Plymouth Voyager 165K good condition, a/c, am/fm/cassette \$3000 or

BO 925-829-8336

AUTOMOBILE ACCESSORIES

ENGINE AND TRANSMISSION: Toyota 20R engine and mating 5-speed trans. \$99 or best offer. 925-443-1533

Tires, Brand new off 2001 Chevrolet H/D 4x4, LT245/75 16 inch 10 ply radial all terrain \$300 925-447-4611

Bedliner, over the rails, for LongBed truck--LIKE NEW--includes tailgate. From 98 Dodge. 925-625-5938

BICYCLES

Trailer Bike, lightweight alloy with 3 speeds. This tagalong type bike turns your bicycle into a tandem for you and your child. Great Fun! \$125 415-928-4469

Mens mountain bike, new tire,excellent condition \$125 925-736-7799

Trek 560 road bike, 48cm chromalloy frame, Shimano components. \$100 obo. 925-447-8845

Cannondale T700 Touring Bike 21 in./53.3cm alum.frame, shimano sis 21 speed group,new continental 700x35 tires, ex. condition \$500.00 or b/o 707-645-8648

Trek 930 mountain bike, 1991 black Mens 16in frame,26in trail tires plus 2nd set of street tires and wheels. Good condition. \$225 OBO 925-449-6911

BOATS

Outboard motor, Seaking 6 hp in good condition. \$100. Call after 6P.M. 925-706-8179

Anchor, trailer tail lights, marine antenna \$15.00 for all 925-447-6728

CATAMARAN, 1998 unique modern sailing catamaran combined with convenience of a power runabout. trailerable. raising centerboard & rudders. \$20,000. 510-781-0437

25ft Apollo Fishing/Cruiser. 79 hull/85 I/O just overhauled. Sleeps 4, galley & head. 93 Galv Trlr. Good Cond. Fun Salmon/Striper Boat \$15k 925-447-7455

Reinell 17ft Inboard/Outboard clean garage kept. V6 Cobra, fish finder under 150 hours.Asking 8,000 will take reasonable offer. 209-324-7912

91 Wellcraft 19ft V6, 250hrs, bimini top, stereo, trailer, assesories, excellent cond. \$8,300 or obo. always covered. 209-832-4535

CAMERAS

Nikon F-4; Lenses:35-70mm AF Nikkor, 70-300 Promaster AF, 50mm macro; Nikon Speedlight SB-24; & miscellaneous filters, \$1,100. 925-672-7255

ELECTRONIC EQUIPMENT

COMPUTERS: 1 IBM 50z and 1 APPLE II E with printers and lots of software. Great for beginners, kids, and word processing. Make offer. 925-443-1533

HP Photosmart Photoprinter - 1997 model - used 1.5 years - makes beautiful fade resistant prints-paid over \$300 - sell \$150. Mat paper available. 925-447-8415

CD player for home system. Pioneer PD M530, holds up to 6 disks, 8X sampling. Includes remote. Excellent condition. \$40. 925-455-4846

HiEnd home theater system \$400; N64 game system+games \$250; Pair hifi speakers \$50; 100 prerecorded reel-to-reel tapes 925-736-7799

TV - 27in RCA XL-100 console \$45.00 925-449-1481

RCA CD Stereo,Compact Disc Player AM/FM Stereo, Cassette Recorder, LCD Readout, AC/DC operation. Retail value \$110. Unopened (gift). Sell for

\$80. 925-443-0743

Marantz SR 73 Surround Sound Receiver with remote. Turn your TV into a home theater. \$100 or OBO. 925-600-0604

GIVEAWAY

Bed frame: twin white metal; includes headboard and footboard 925-449-0463

Tonneau cover (never used) and bra for 1991-94 Mercury Capri convertible 925-516-7524

Free Guinea Pig. He is all brown, and adorable. Comes with cage, water bottles, and food bowl, all free! 925-454-0330

Bosch dishwasher, stainless interior, does not run, good condition otherwise, you haul. 925-449-6911

HOUSEHOLD

Multi-family yard sale. Intersection of Madiera and Vista, Livermore. 9 am open maybe earlier 925-294-9022

Wow...nice wooden end tables (2) with beveled edge glass tops. Originally advertized here for \$80 ea., now only \$60 for both. 209-836-9082

Refrigerator/freezer. Side-by-side. Off-white. Ice-maker. Good condition. \$150. 925-443-5213

Washer and electric drier, Sears heavy duty, 8 years old,\$50.00 each.Call after 6 pm. 925-516-2617

Large, three section oak entertainment/storage unit,six by six and a half feet. Natural finish, very nice. \$500. 925-447-8313

Range, 30-in Electric Maytag, Almond w/glass window in door, remodeling-excellent condition. \$100 209-848-1375

Futon, queen size mattress with light oak frame, almost new. New \$395, asking \$225/OBO. 925-443-2821

Modern solid walnut desk (\$125), Sony 17in TV (\$100), Room electrostatic air-purifier; \$9j0; Electric dehydrator \$25 925-736-7799

2 - single/double metal bunk beds. 1 red very good condition w/mattresses \$150, 1 white in excellent condition w/mattresses \$225 209-239-7242

Water Garden, 40 Gallon pre-formed plastic pool with lily and some other plants, \$20 firm 924-484-9028

Loveseat. Earthtones (tan, brown, rust, green). Good condition, \$100. 925-373-2549

Dining room set - glass table 42x72 with beveled edges, 4 fabric chairs. Email photo available. \$500 obo. 925-447-8845

Longaberger chair pads, Classic Blue. Cat. \$27+ tax/s&h. 10 available at \$20 ea. New & seldom used. 209-239-3116

Entertainment center w/casters, contemporary, oak finish, 60Wx48Hx20D, fits 25-in. TV, shelves for VCR/stereo, cupboards for videotapes. \$100.00 925-447-4352

Refrigerator - 25 cf Whirlpool Designer Style. Almond with 2 black doors. Water/ice. Excellent cond. \$800. 925-960-1512

McClane self propelled reel mower from home depot 550new sell for 150 just like new 209-531-1330

Solid oak desk with 3 drawers and glass top. Chair included. \$70 925-449-8131

Futon, single, frame couch/bed, heavy cotton & softer pad. Arm chair, wood, green cushions. Rocking chair, wood. \$50-65 each. All great condition. 925-443-0743

LOST & FOUND

Found, a blue hat in the A-1 parking lot. (by B-111) Approx. Mar 1st. Dorfman-

Pacific .4-3977-- 209-832-2865

MISCELLANEOUS

Fisher Price Toots the Train. Automated train, tracks, Excellent conditon. Original price \$59.99 sell for \$30 209-832-2862

Boy/Girl 0-3 yrs. clothes, Old Navy/Gap/Gymboree brands. Exersaucer, car seats, oak changing table, toys, etc. Excellent condition and prices. 209-832-2862

GARAGE SALE - Multi Family, March 31, 8-5 Rain or Shine, 1109 Hillcrest Court, Livermore; A few retired Beanie Babies 925-447-0351

Reel for pool cover. Almost new, approx. 20 feet wide, very lightweight. New \$175, asking \$75/OBO. 925-443-2821

New Benchtop 10 inch Bench Table Saw \$150 or best offer. 925-672-7255

Drafting table. Tilts and elevates; very sturdy. \$75.00 OBO. 925-456-3010

Sears heavyduty sander (\$70), scroll saw (\$70), small hydraulic jack \$15, fish tank & accessories \$20 925-736-7799

Big green rug cleaner \$25.00 925-447-6728

Fisher Price stroller - handle reverses \$35.00, Graco playpen \$10, Bassinet set like new \$65.00, and more baby stuff. 209-239-7242

Hose reel. Ground or wall mount. \$5. 510-733-9802

Socket set, 3/4 in. drive, \$10; crescent 15 in. adjustable wrench, \$5; poly cross bed toolbox for full size PU, \$20. 925-455-1183

Nike leather soccer shoes. Air zoom 90 TF, turf, Size 11.5. Worn once. Wrong size for me. Cost \$84.00, sell for \$45-firm. 209-823-0641

Slide for backyard jungle gym. Like new \$20. 925-443-0499

Kenmore Washer and Electric Dryer. Dryer is about 2 years old. Washer about 5 years old. Both in excellent condition. \$200 each or \$350 pair. 209-606-3892

Motorcycle helmet, Red, Excellent condition. 510-581-1863

Dorm refridgerator. Excellent condition. Black, approx. 36x20x18 inches. \$85 OBO. Now in T3777. 925-443-0743

Barbie Dolls 1990 s, call for low prices & types. 925-373-1089

Thule bike carrier\$70, above ground pool 2yrs new 16ft round \$550 (\$1600 new) 925-443-4848

MOTORCYCLES

1985 - Yamaha Venture Royale touring motorcycle. 1200cc, Loaded. Rides like a Cadillac. Only 19K miles. Excellent condition. \$3200 925-455-8423

2000 - Corbin touring saddle with detachable sissy bar.screaming eagle mufflers and pipes.Almost new.Fits 2000 FXST.209-823-1325 209-823-1325

Leather motorcycle chaps and jacket with braiding, excellent condition, mens small, \$100. 925-516-7524

MUSIC INSTRUMENTS

Classical Guitar. Yamaha, good condition, plays well. \$75. Call Jeff 925-455-4846

Rock & Roll Band .We Play Classic Rock. 5 Peice Band .We Play Parties, Weddings Or Any Event.Free Est. 925-939-7455

Violin, Palatino (full size) with good quality bow, case, and shoulder rest. All items brand new. Purchased last year in Dublin, Ireland. \$250 OBO. 925-443-0743

KEYBOARD - YAMAHA CLAVINOVA, 32 rhythms voices, ROM music,

sequencer, \$1500 OBO, kiba@jps.net, After 4PM 209-754-4367

PETS & SUPPLIES

Persian cats, 3 years old, 1 male, 1 female, all shots. Must find a new home. 925-447-3677

A real little Charmer! This 8 month female Chow mix was rescued. Cannot keep with three other dogs. Needs loving home! 2-5-625-1342

Yorkie puppies small size 2 each males born on 1/24/01 AKC 1st shots very healthy \$550 each firm. 925-443-2819

RECREATION EQUIPMENT

Take over Payments 1990 Holiday Rambler RV 30 Foot 454 Chevy Eng.Clean 925-447-9179

Rc Airplane 30 In 60 In Red And White. 4 Channel Remote Cntrl Asking \$200 Obo Or Trade For Rc Car Or Truck. 209-521-4846

1985 Vacationeer 11 1/2 truck camper. Fully self-contained; luxury interior. Excellent condition inside and out. Must see. \$4,500.00 firm. 925-456-3010

Golf clubs set&bag \$45, Mens mountain bike \$120 925-736-7799

1989 Ford, Mallard class C Motorhome,27ft. Good condition. Sleeps 6, microwave, some accessories included. \$15,500. 209-239-7242

Weider weight bench with leg and butterfly extensions. \$30 or best offer. 510-733-9802

Radio Control Airplane, Cox Zooper, Electric Power, \$20 925-484-9028

RCBS case trimmer kit, Trim-Pro. New.\$50 925-443-6766

Nordic Trak, Walk-Fit. New, never used, with video. Orig. cost, \$600, sell for \$200-firm. U pick-up. 209-823-0641

Cardio glide \$25, Ab roller \$10 excell cond. 925-447-4611

Vacationer self contained camper,2w refer,shwr,toilet,w.coolr,Q.bed,hyd jks,gd lyout/shape nds some maint. \$750 firm 925-684-9252

19FT 1995 Wilderness Travel Trailer. A/C, M/W, Heater, Awning. Very Good Condition. Must sell. \$7,900 obo. 707 570-2775 707-570-2775

Ski Lift Ticket (weekday/all day) Sierra at Tahoe. \$20 209-832-1321

1996 Holiday Rambler Endeavor LE ,diesel pusher,18000 miles, super slide out,basement model,38 feet long, fully loaded.call after 6:00 pm. 209-748-2780

RIDESHARING

Express your commute, call 2-RIDE for more information or visit the web site at <http://www-r.llnl.gov/tsmp/> for more information

Ceres/Modesto - 14 psgr Enterprise luxury vanpool, 7:00-3:30, \$120/month 209-537-0229, ext. 3-6631

SERVICES

TUTORING in high school and college math and chemistry. 925-443-2095

Interior/Exterior painting. Excellent workmanship, 18 years experience. All customers are always satisfied. Free estimates. 510-537-7222

Professional Sprinkler Repair & Tree Stump Removal FREE Estimates. 925-443-6010

Hauling Service. Estate Cleanouts, Attics, Garage, Shed and Barns. Misc.... 925-373-9540

LAWN AERATING & FERTILIZING. FOR A FREE EST. PLEASE CALL MEL @ 925-939-7455

Handyman services - have tools will

Forum gives grassroots safety teams time to network

The grassroots safety movement received an endorsement recently from managers and department heads who attended the Laboratory’s first Grassroots Safety Initiative forum.

Coordinated by Robin Ladd, chair of the Plant Engineering Executive Safety Committee, and Bob Felicitas, chair of the Environmental Protection Department (EPD) Safety Advisory Committee, the Feb. 28 forum gave members of grassroots safety teams the opportunity to network, share safety concerns and brainstorm ideas to keep co-workers safe from injury and illness.

Ladd characterized the forum as “the starting point for collaboration and problem solving between all safety groups at the Laboratory.”

Among those expressing their commitment to the grassroots effort were Lynn Cleland, acting associate director for the Safety and Security Directorate, and Steve Hunt, acting associate director for the Laboratory Services Directorate.

Cleland stressed the importance of getting grassroots involvement “by the people who understand safety issues. That’s where culture change has to start.”

Hunt remarked that any successful grassroots program requires a commitment to safety from employees and first-line supervisors. “It can’t be driven from the top down,” he said.

Jim Jackson, Hazards Control Department head, solicited ideas for a “safety tool kit” that he said supervisors could use to help them fulfill their Integrated Safety Management (ISM) responsibilities and achieve expectations related to safeguarding the safety and health of employees.

Bernie Mattimore, Plant Engineering Department head, admitted that he had once balked at using what he viewed as intrusive safety measures, such as seat belts — until his children set him straight on safety. He related this to safety at work, saying that although systems such as Behavior-Based Safety (BBS) help you identify at-risk behavior, a grassroots safety culture can be the catalyst one needs to change behavior.

Joe Kreuger, head of the Safeguards and Security Department; Jim Seward, head of Health Services; and Harry Galles, Environmental Protection Department head, also supported the efforts of the grassroots committees and encouraged the attendees to continue their efforts to get employees at all levels involved in thinking safety and working safely.

The managers left after their welcoming remarks, turning the forum over to the grassroots teams for brainstorming sessions on the successes and failures of safety committees.

As the approximately 40 forum attendees, from Safety and Security and Laboratory Services directorates, began their brainstorming sessions, Felicitas emphasized, “we are not competing — we’re all working together for the same cause.”

Several groups identified management support of safety committees as a critical success factor. Others cited the presence of committee members dedicated to safety, whole-group interaction, regular meetings and mechanisms for sharing safety information with co-workers as crucial, as well as awards and recognition programs that put the spotlight on safety.

The groups attributed failures to such factors as lack of participation, inability to sustain energy, and lack of follow-up on identified safety problems.

After lunch, the brainstorming groups turned their attention from the general to the specific as they focused on individual and group safety concerns in areas such as bike and traffic safety, workplace violence, the aging workforce, and emergency evacuation procedures.

Those discussions led to a vote to identify the top safety issues facing Safety and Security and Laboratory Services directorates. Issues include:

- Ergonomics;
- Lack of a centralized directory of approved ergonomic equipment, tools, and workstation items;
- Unsafe work environments that can be created by working long shifts on a continuous basis;
- The responsibility of supervisors to ensure that employees use the right safety equipment;
- Communication between all safety committees and teams to keep alive the networking in a post-forum environment.

Action plans were developed for presentation to management on each of the safety issues.

Ladd and Felicitas encouraged forum participants to attend other safety committee meetings to continue the process of networking and sharing that started at the forum. Organizers plan to hold another Grassroots Safety Initiative forum in the fall, involving all grassroots safety committees at the Laboratory.

travel. 925-449-0516 925-449-0516

SHARED HOUSING

Livermore - 2 rooms available at \$625/ea, close to Lab. Split utilities, swimming pool, some storage, must get own phone and no pets. 925-989-4131

Concord - Looking for m/f roommate to share large 4 bdrm, 2 1/2 bath house with 2 adults/1 child. Close to DVC, 30-45 commute to lab, dog ok. \$575 + 1/3 util. 925-413-9459

Livermore - Room for rent. good east side neighborhood. \$460/mo. small room, furnished. utilities included. smoker okay. 925-447-6218

TO TRADE

Nordic Trak, Walk-Fit. New, never used, with video. Orig. cost, \$600. Trade for stationary exercise bike of similar caliber. U pick-up. 209-823-0641

TRUCKS & TRAILERS

1986 - Dodge Custom Van Conversion, storage, icebox, comfortable bed, excellent tow vehicle, 91K, new Michelin LT tires/ battery/wiring/brakes. \$3500. 925-625-5938

1993 - Ford F150 XL - Great work truck, has box and rack. 163k miles. \$4,500. 925-516-3768

1993 - GMC Sonoma SLE 4x4, V6 4.3L, 1/2 TN, AT, PS, CC, AC, Ext Cab, Shell, Bedliner, tilt, security, wide wheels, 130K miles, 1 owner, xtra clean, \$8200. 925-937-6267

1972 - Dodge 3/4 ton automatic, 400. \$1,200.00 OBO. 925-456-3010

1986 - Dump truck, GMC3500, 4X4, new 6.5L, diesel and turbo, flat bed, \$7500 OBO 925-443-3720

1997 - Toyota 4Runner, 4 WD, loaded with extras, 63K miles, original owner, \$17K. 925-426-9886

Cab-over camper shell with toolboxes. \$150 or trade for camper shell 925-443-7828

1999 - Dodge Dakota 4x4 x-cab Sport, V8, AT,PW,PL,PM,AC,CC,TILT,bedliner,tow nneau cover, tow pkg.Blue-ext/black-int, 43k miles, \$19,000. 408-506-1520

1978 - 3/4 T old beater chevy truck,strong rebuilt 4 bolt 350,rv cam,4 sp., clutch is shot,good fixer or great for parts. \$800 firm 925-684-9252

1995 - 19FT Wilderness Travel Trailer, A/C, M/W,Heater,Refrig, Stove, Awning. Very Good Condition. Must sell,retiring. \$7,900 OBO 707-570-2775

1997 - F150 super cab, long bed w/liner, 3 door, Tilt, AC, PW, PS, new tires. \$16,500. 925-447-4711

1996 - Chevy 1/2 ton Silverado, 305 V8, PS, PB, PW, AM-FM, 67000 miles. Asking \$13,500. 925-455-4283

1998 - Chevy 3500 Silverado Extended Cab one ton dully,AM/Fm Cass,PW,PDL,Tilt wheel,AC,AT,Bed Liner, low miles asking \$21,500 925-373-1089

1989 - Tote Dolly To haul small &large cars \$350 or offer. 12 ft. alum Boat & trailor \$700 or offer. 925-449-8297

1998 - Dodge Dakota extended cab. 4 cyl, 5 speed, 28,400 mi. Very nice: Alloys, fog lights,bed liner, 4/6 drop. \$13,500. Mike or Brian. 925-443-1390

1982 - Coachmen 20ft. fully self-contained trailer.\$1500.00 209-952-5305

Heavy duty motorcycle/utility trailer with extra tire, three rails, 14 inch tires, very sturdy, \$450. 925-454-9291

Trailer, car hauler, 6 ft. X 12 ft 4 in long, with ramps.Tandem axle, new tires, heavy duty. \$1500. FIRM 925-443-3720

1985 - Nissan King Cab 4X4 5 sp.,air, \$2500 OBO 925-443-4350

1996 - Ford F150 Super Cab 8ft bed,bed Liner,camper shell,custon rack,CD player am,fm,Air,2fuel tanks,Cruise,Ps. 5 speed Runs Great

Dave 12,500. OBO 925-443-3651

1986 - Wilderness CL3000 5th Wheel, 21.5 ft, Sleeps 6, Very Good Condition, \$2000.00. 209-239-1770

1989 - Ford F350 Crew Cab Lariat, Brn, Dually, PS, PB, AC, Cruise, Manual, 5th wheel, bedliner, running boards. 157,000+ miles. \$7,900.00 OBO. Donna 925-449-0120

1997 - Suzuki Sidekick JLX, 4-door, auto, 4x4, 20-K miles, great shape, original owner, loaded,warranty 6/01. asking \$10,875 925-447-5633

1992 - Chevy Astro 8 Passenger Extended Van, AT, PS, ABS, AC (front & rear), CC, Tilt, PL, PW, AMFM Cass, Alloys, Exceptional, \$6,000 925-846-1871

1990 - 90 Toyota 4 wheel drive, new enging,clutch,and interior. Asking \$5500.00 925-513-1443 after 5 pm. 925-513-1443

Cross bed tool box for full size PU, black poly with lock. \$25. 925-455-1183

Stockland Campershell. White, fits full size Ford trucks. \$250 925-373-1754

1994 - toyota forerunner SR5 roof rack,cd stereo,tow package,security system,great condition,2WD,98,000 miles, 14,000 obo. 925-755-2753

1997 - Ford F-250 HD, 460 V8, 4X4, Extra Cab, Long Bed with Liner, Fully Loaded with low mileage. Excellent Condition 925-455-5812

1999 - Toyota-Tacoma-Xtra Cab V6 5-speed, Off-Road package, AC,PW,PL,AM/FM CD w/ stacker, Loaded in great condition with VERY Low Miles. Asking \$19,500.00 925-449-9255

1969 - 3/4T GMC pickup,AT. Needs someone to get her started. \$1,200 or BO. 925-449-1384

1982 - Chevy Blazer, 6.2 diesel, 24 + MPG, 103K miles, 4 x 4 auto. Must sell. \$3000 OBO. 209-833-6452

1984 - Toyota 4x4 X-cab pick-up P/S,P/B,AC,CD,camper shell,carpet kit,bedliner,149K,5 sp.,runs great, \$3500/obo 925-373-9224

2000 - Dodge Dakota SLT King Cab, Automatic, Air, Power, Cruise, Line-A-Bed, \$17,500 obo. 925-373-9680

1990 - NISSAN SE-V6 extended cab pickup: 5-sp, cruise, ac, am/fm/cass, BRAHMA camper shell, bedliner, new breaks, runs great, 88k mi., ORIG OWNER \$5000 obo. 925-983-0138

1985 - Chevy Suburban, 90,000 miles on new diesel engine, new tires & rims. \$4,500 or BO. 925-447-5132

VACATION RENTALS

Soda Springs / Donner Summit - Classic rustic A frame, 2BR+Loft, 1BA sleeps 8, Walk to Royal Gorge, 5 min. to Sugar Bowl 209-836-3481

Southern MAINE COAST - Unique get-away, two beachfront homes on wooded acreage, some openings Summer/Fall, seven mile sandy beach, call for details. 925-516-7524

SOUTH LAKE TAHOE - 3 Bedroom 2 Bath Chalet, nicely furnished, all amenities, close to all skiing, few weekends left,mst weekdays available,Hurry to Ski!! Reserve Now!! 209-599-4644

Twain Harte - Fully furnished.2bdr 2full bath.TV,VCR, washer,dryer,microwave,dishwasher,and more.close to Dodge Ridge ski area.\$1500wknd \$3000wk. 925-443-2808

Maui, HI - Kahana Reef oceanfront 1BR/1BA condominium. Beautiful two-island view, oceanside pool, and BBQs. Low LLNL rates for year-round reservations. 925-449-0761

SEA RANCH - Oceanview home. No smoking. No pets. Adults only. 2BR(KQ)/2BA 1700sqft. Hike. Bike. Whale watch. Kayak. Swim. Tide pool. 925-443-5086

HAENA, KAUAI - - Private house and/or studio on the scenic north coast near Hanalei Bay - great beaches, hiking, boating and golf. House-\$125/day,

studio-\$75/day. 831-479-3441

Berkeley - 4-bedroom, 1-bath, deck, yard. Rockridge, Oakland near UCB, BART, freeway. June 1 or 15th through August 24. Non-smoking. 510-652-7825

WANTED

Have Old Erector Set made by Gilbert No. 10041. Need project book to copy or something close, mine's lost. Call after 6 P.M. 925-706-8179

POOL table 209-478-1381

Slide projector wanted 925-371-6388

Wanted old unwanted Mitchell/Garcia and Quick spinning reels any condition 209-239-7103

Hooked on Phonics Game for child with learning disability. 925-449-3152

Wanted: Old stereo equipment, speakers, receivers etc., working or not. 925-443-2954

Tile installer. Have tile, need installed by reasonable, experienced and qualified individual(s). References requested. 925-462-6503

Wanted: Little Tykes (or similiar) work-bench/workshop for a little tyke. 449-7525

Cross Country Ski Boots, 3 pin, size 12(46) 925-443-5565

WANTED- utility trailer, at least 5X10 with 30 inch sides. Willing to pay up to \$1000 209-786-3910

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THE BACK PAGE

SCIENCE DAY

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times. We've all been working hard to create a strong collaborative program with no barriers within NNSA." (For more of Gordon's remarks, see story page 1.)

UC Provost and Senior Vice President C. Judson King offered perspectives from the Office of the President.

"This lab is not only managed by UC, but grew out of UC," King said. "We're now nearing fifty years of that UC management, and it's possible that more has happened in the last two years than in the first 48."

King expressed UC's pleasure at having the new contract extension, and observed Science Day as the first even to be held under this new contract. He spoke of UC being a force behind the enabling, nurturing and fostering of LLNL science.

At one point, King noted UC's motto, *Fiat Lux* (let there be light), and pointed out how this applies to NIF.

King noted that the Lab's contributions to various UC research projects are less recognized. "The Center for Accelerated Mass Spectrometry has been

very useful to numerous UC sources, and the Institute of Geophysics and Planetary Physics benefits both institutions. It was Livermore optical science that contributed to the recent improvements on the Keck observatory mirrors.

"But it is scientific supercomputing," said King, "where Livermore leads. This is the most rapidly growing field of science. Just think of what has happened in this field over the course of the last 40, ten or even five years – it's enormous."

James Decker, Acting Director of DOE's Office of Science, stated matter-of-factly that "NNSA and the Office of Science both depend heavily on the national labs to accomplish their missions, and the two offices are closely aligned on many policy issues."

In support of the these critical national security missions, Decker said, "LLNL has a rich history of significant achievement."

He reassured the assembled crowd regarding the cooperation between departments, and where that may leave the funding for projects conducted here.

"The Office of Science will continue to fund research at NNSA labs. There are no barriers. We have a win-win-win situation where everyone benefits.

Concerning the issue of Lab security, Decker

spoke of the need to protect information, while still providing a "productive environment that allows scientists to collaborate with other scientists, other labs and other countries.

"All DOE labs continue to work together as a system of labs. Neither the financial nor human resources are available to allow the labs to exist in competition. The name of the game is collaboration."

Throughout the day, the Lab presented its brightest and best results from supercomputing power. Those assembled for the day saw brilliant graphics on topics from Jave Kane's astrophysics to Starley Thompson's climate simulation to Dave McCallen's earthquake predictions, and many others.

Jeffrey Wadsworth summed up the day in three main points: "We need even bigger computers. We still need experimentalists. And we need to talk to Dave McCallen before we decide to buy a house."

He further commented "the day was very interesting in that it illustrated the Lawrence Livermore way we approach our science. All the talks emphasized solving problems of national importance, than were of scale, and that use multidisciplinary teams to solve those problems. In other words, we are still 'Lawrence's Lab.'"

KREBS

Continued from page 1

process, and not just let people go about doing their own thing. Scientists cannot provide their own security, their own paycheck, etc."

Management at this level "takes on a whole different character" from working science. No one administrator, she said, can direct all the support and all the science.

Moving up the scientific leadership ladder, Krebs reached the rung of policy. "Policy has really evolved over the last few years from setting missions to requiring accountability," she said, and noted the increasing accountability in such areas as ethics, human subjects, health and safety. Such accountability often leads to the paper trail that can clog effective communication lines in scientific institutions, Krebs said.

To be certain the lines stay open, she encouraged all institutions to maintain personal contact with the policy makers in Washington, D.C.

"It is so important that labs continuously send their people to Washington," she emphasized. "Policy, on the national or local level, is a continuing process. It doesn't just get set once and then

it's over. Constant communication is the only way for institutions to make sure their science gets done."

Krebs encouraged scientists to communicate openly and often to influence policy locally, through management and local politicians. "Politics plays at every level," she stated. "Sometimes it's 'small p,' sometimes it's 'capital P,' but it's there from the actual work environment through the administration and all the way to the mission level."

Krebs concluded her talk in the theme of Women's History Month with some personal reflections on being a woman in science. "When I go to work, I think about the problems at hand, not necessarily about being a woman. Unfortunately, when I walk into a room of scientists and I'm not the only woman, it is so unusual that I do stop and think about it."

On the influence of women on the necessary communications for successful scientific institutions, Krebs quoted author Carol Gilligan's idea that " 'Institutions must be built with care and love, not just an autonomous life of work.'"

"Women have the talent, training and inclination to make a difference in building strong institutes and strong science," she concluded.

Commission on science, security



JOSEPH MARTINEZ/TID

The Commission on Science and Security met with various Lab managers and personnel from DOE and Sandia for daylong discussions on stockpile stewardship, safeguards and security and various workforce challenges. John Hamre (fifth from left) led the briefings.

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